

Appendix C

Maps for Location of Beryllium Burials

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This appendix contains two summary tables—Table C-1 describes the beryllium shipments buried in the SDA, and Table C-2 lists the marker shipments—and 10 maps showing the inventory, geophysical, and tritium data taken from near the beryllium shipments in various disposal locations. Table C-1 lists information about the beryllium shipments, such as the shipment identification, shipping container, and a description of the waste. Table C-2 lists the marker shipments and massive shipments of metallic materials that are known to be buried close to the targeted beryllium and, thus, tie the historical location estimates to current ground locations. The maps show the process that enabled confidence in locating the beryllium blocks for grouting. Note that, on the maps, the colored tritium ratio scale applies only to tritium samples. These samples are represented by small colored circles near shipment locations.

The following explanation of symbols on the maps is repeated in the caption of each map.

Figures C-1 and C-2—Trench 52 (Be-1, Be-2, Be-3, and Be-4). Crosshair symbols show beryllium and marker shipments for Trench 52. Shipments and contents are labeled.

Figures C-3 and C-4—Trench 54 (Be-5). Crosshair symbols and rectangular outlines show beryllium and marker shipments for Trench 54. Shipments and contents are labeled.

Figures C-5 and C-6—Trench 57 (Be-6). Rectangular outlines show beryllium and marker shipments for Trench 57. Shipments and contents are labeled.

Figures C-7 and C-8—Trench 58 (Be-7, Be-8, Be-9, Be-10, Be-11, Be-12, Be-13, Be-14, Be-15, Be-16, Be-17, Be-18, and Be-19).

Figures C-9 and C-10—SVR-17 (Be-20, Be-21, Be-22, Be-23, and Be-24).

Figure C-11—SVR-20 (Be-A, Be-B, and Be-C).

Table C-1. Summary of beryllium shipments in the Subsurface Disposal Area.

ID	Location	Generator	Document ID/Shipment No.	Disposal Date	Shipping Container	Volume (ft ³)	Weight (lb)	Description
Be-1	Trench 52	MTR	TRA603SR005/01/7080030020	5/1/70	Galvanized steel containers	28	—	Irradiated beryllium pieces, cadmium, regular pads, and Aluminum A pieces. Highly contaminated, high-radiation and beryllium contamination.
Be-2	Trench 52	MTR	TRA603SR004/21/70145415010	4/29/70	Galvanized steel containers	28	—	Irradiated beryllium core reflector and other beryllium pieces.
Be-3	Trench 52	MTR	TRA603SR004/21/708005015	4/30/70	Galvanized steel containers	28	—	Irradiated beryllium core reflector and other beryllium pieces. Highly contaminated, high-radiation and beryllium contamination.
Be-4	Trench 52	MTR	TRA603SR004/21/7081014017	4/30/70	Galvanized steel containers	28	—	Irradiated beryllium core reflector and other beryllium pieces. Highly contaminated, high-radiation and beryllium contamination.
Be-5	Trench 54	ETR	TRA642SR012/02/70800	12/2/70	Metal liner	30	700	Scrap stainless steel, aluminum, and beryllium.
Be-6	Trench 57	Hot cell	TRA632SR010/03/731005	10/3/73	2 boxes	13	80	ATR and ETR beryllium.
Be-7	Trench 58	ATR	TRA670SR011/17/761405	11/18/76	1 insert	28	500	Beryllium blocks.
Be-8	Trench 58	ATR	TRA670SR012/01/761000	12/1/76	1 insert	28	500	ATR beryllium blocks.
Be-9	Trench 58	ATR	TRA670SR012/02/761015	12/2/76	1 insert	28	500	ATR beryllium blocks.
Be-10	Trench 58	ATR	TRA670SR012/03/761115	12/3/76	1 insert	28	500	ATR beryllium.
Be-11	Trench 58	MTR	TRA603SR005/05/771001	5/6/77	1 insert	28	300	Canal trash and beryllium.
Be-12	Trench 58	MTR	TRA603SR005/05/771000	5/9/77	1 insert	28	300	Canal trash and beryllium.
Be-13	Trench 58	MTR	TRA603SR005/10/77815	5/10/77	1 insert	28	300	Canal trash and beryllium.
Be-14	Trench 58	MTR	TRA603SR005/10/771015	5/12/77	1 insert	28	300	Canal trash and beryllium.
Be-15	Trench 58	MTR	TRA603SR005/12/771000	5/12/77	1 insert	28	300	Canal trash and beryllium.

Table C-1. (continued).

ID	Location	Generator	Document ID/Shipment No.	Disposal Date	Shipping Container	Volume (ft ³)	Weight (lb)	Description
Be-16	Trench 58	MTR	TRA603SR005/10/771500	5/13/77	1 insert	28	300	Canal trash and beryllium.
Be-17	Trench 58	MTR	TRA603SR005/12/771430	5/23/77	1 insert	28	300	Canal trash and beryllium.
Be-18	Trench 58	MTR	TRA603SR005/26/771400	5/25/77	1 insert	28	300	Canal trash and beryllium.
Be-19	Trench 58	MTR	TRA603SR006/01/77900	6/3/77	1 insert	28	300	Canal trash and beryllium.
Be-20	SVR-17	ATR	TRA67007/08/874573	7/8/87	1 insert	27	520	Core structural parts.
Be-21	SVR-17	ATR	TRA67007/13/874575	7/13/87	1 insert	27	309	Core structural parts.
Be-22	SVR-17	ATR	TRA67008/26/874599	8/26/87	1 insert	27	230	Core structural parts.
Be-23	SVR-17	ATR	TRA67008/27/874601	8/27/87	1 insert	27	670	Core structural parts.
Be-24	SVR-17	ATR	TRA67009/29/874655	9/29/87	1 insert	27	650	Core structural parts.
Be-A	SVR-20	ATR	TRA67005/13/936011	5/13/93	1 insert	27	—	Core structural parts.
Be-B	SVR-20	ATR	TRA67006/15/936017	6/15/93	1 insert	27	—	Core structural parts.
Be-C	SVR-20	ATR	TRA67008/04/936014	8/4/93	1 insert	27	—	Core structural parts.

ATR = Advanced Test Reactor
 ETR = Engineering Test Reactor
 MTR = Materials Test Reactor

Table C-2. Summary of marker shipments in the vicinity of beryllium shipments buried in the Subsurface Disposal Area.

ID	Location	Generator	Document ID/Shipment No.	Disposal Date	Container	Volume (ft ³)	Weight (lb)	Description
MRK-1	Trench 52	CPP operations	CPP601SR004/30/708202000	4/30/70	None	168	—	Metal scraps
MRK-2	Trench 52	CPP operations	CPP630SR006/12/7080050	6/12/70	Unknown	132	—	Metal scraps
MRK-3	Trench 57	NRF	NRF618SR009/06/731300	9/7/73	None	50	14,500	SIW deep pit resin tank
MRK-4	Trench 57	CPP	CPP633SR007/31/731045	8/1/73	1 container	175	36,800	Waste Calcining Facility final filter
MRK-5	Trench 57	NRF	NRF618SR010/12/73920	10/15/73	2 containers	176	26,200	Skimmer vaults resin
MRK-6	Trench 54	ETR operations	TRA642SRO11/23/70800	11/24/70	2 carbon steel tanks	135	2,100	Spent anion resin—contaminated
MRK-7	Trench 54	ECF operations	NRF618SRO12/03/70800	12/3/70	Lead and steel	16	540	A1W hardware in Scrap Insert #350
MRK-8	Trench 54	ECF operations	NRF618SRO12/08/70800	12/8/70	Lead and steel	16	200	A1W hardware and miscellaneous scrap in Scrap Insert #351
MRK-9	Trench 54	ETR operations	TRA642SRO12/02/70810	12/2/70	Metal liner	30	700	Scrap stainless steel and aluminum

CPP = Chemical Processing Plant
 ECF = Expanded Core Facility
 ETR = Engineering Test Reactor
 NRF = Nuclear Reactor Facility

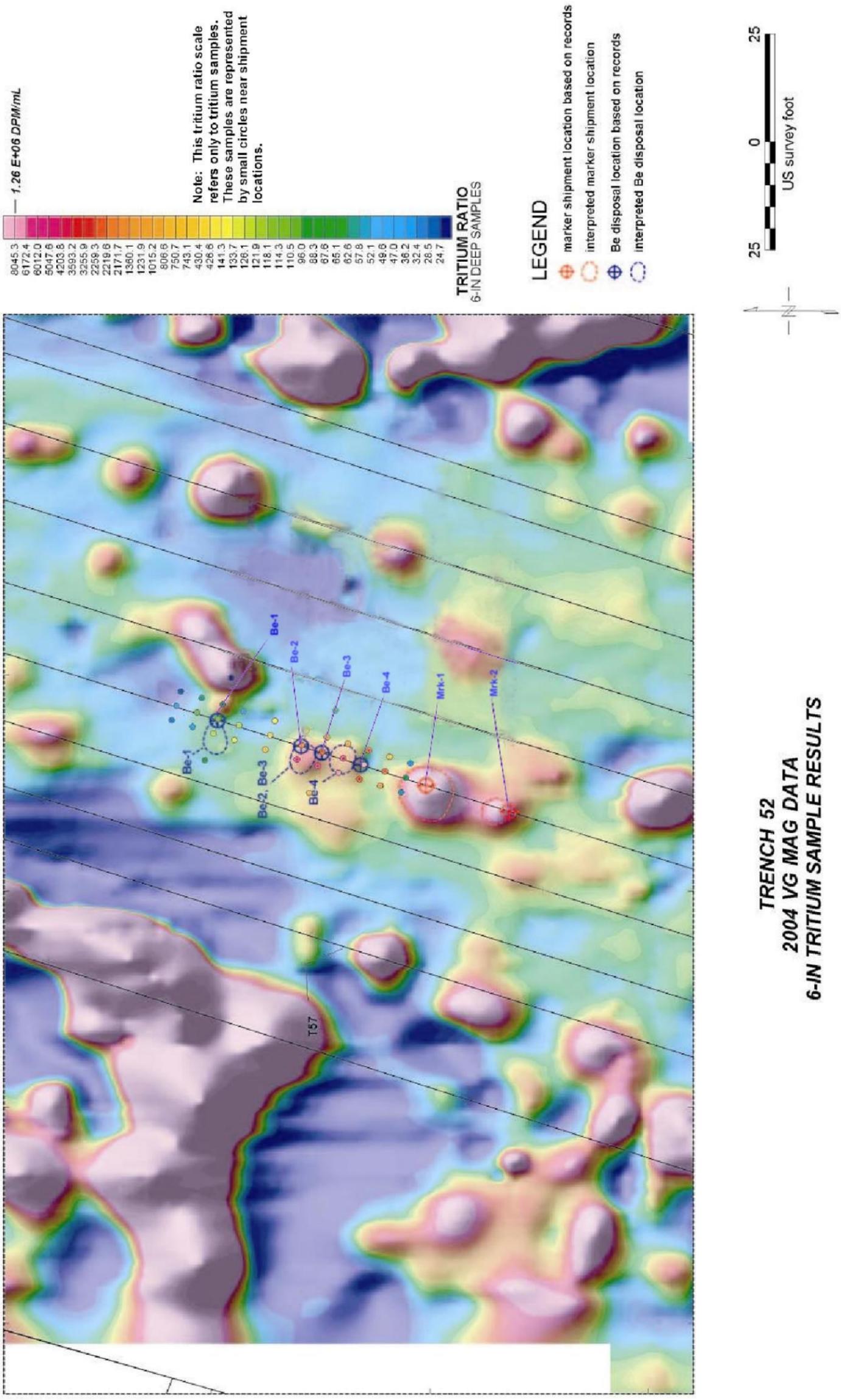


Figure C-1. Trench 52 vicinity map showing magnetic data and 6-in.-deep tritium sampling results for Be-1, Be-2, Be-3, and Be-4. Crosshair symbols show beryllium and marker shipments for Trench 52. Shipments and contents are labeled.

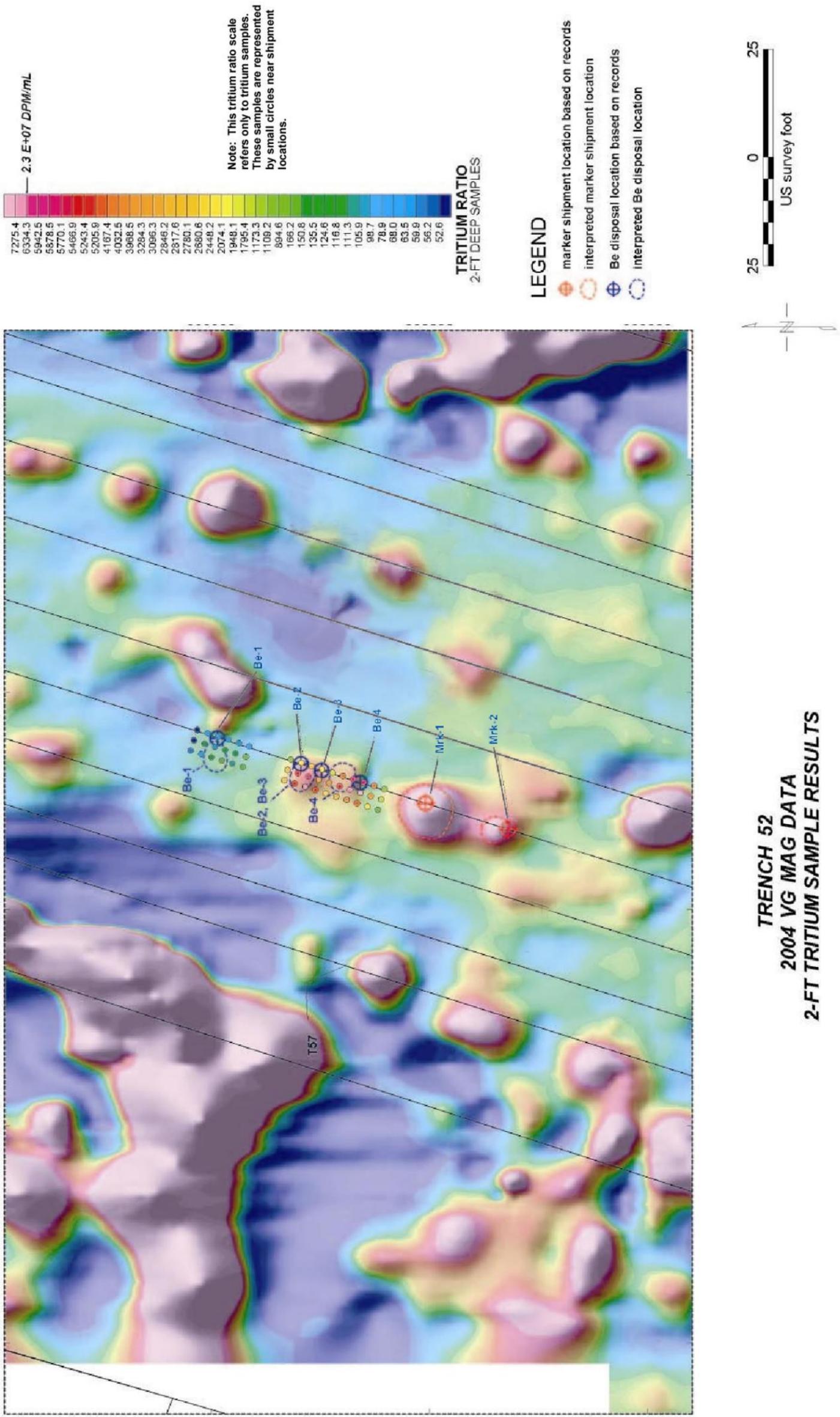


Figure C-2. Trench 52 vicinity map showing magnetic data and 2-ft-deep tritium sampling results for Be-1, Be-2, Be-3, and Be-4. Crosshair symbols show beryllium and marker shipments for Trench 52. Shipments and contents are labeled.

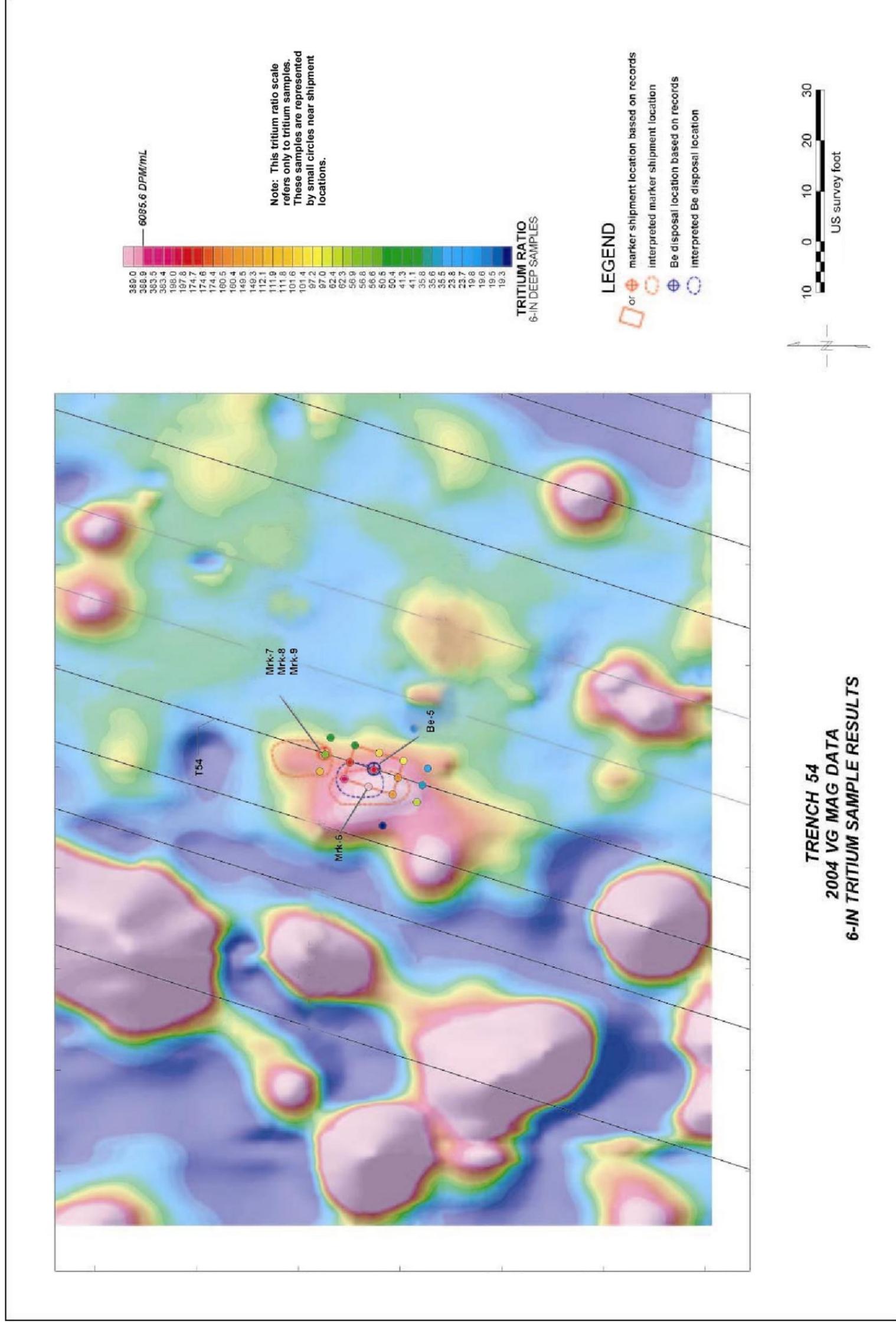


Figure C-3. Trench 54 vicinity map showing magnetic data and 6-in.-deep tritium sampling results for Be-5. Crosshair symbols and rectangular outlines show beryllium and marker shipments. Shipments and contents are labeled.

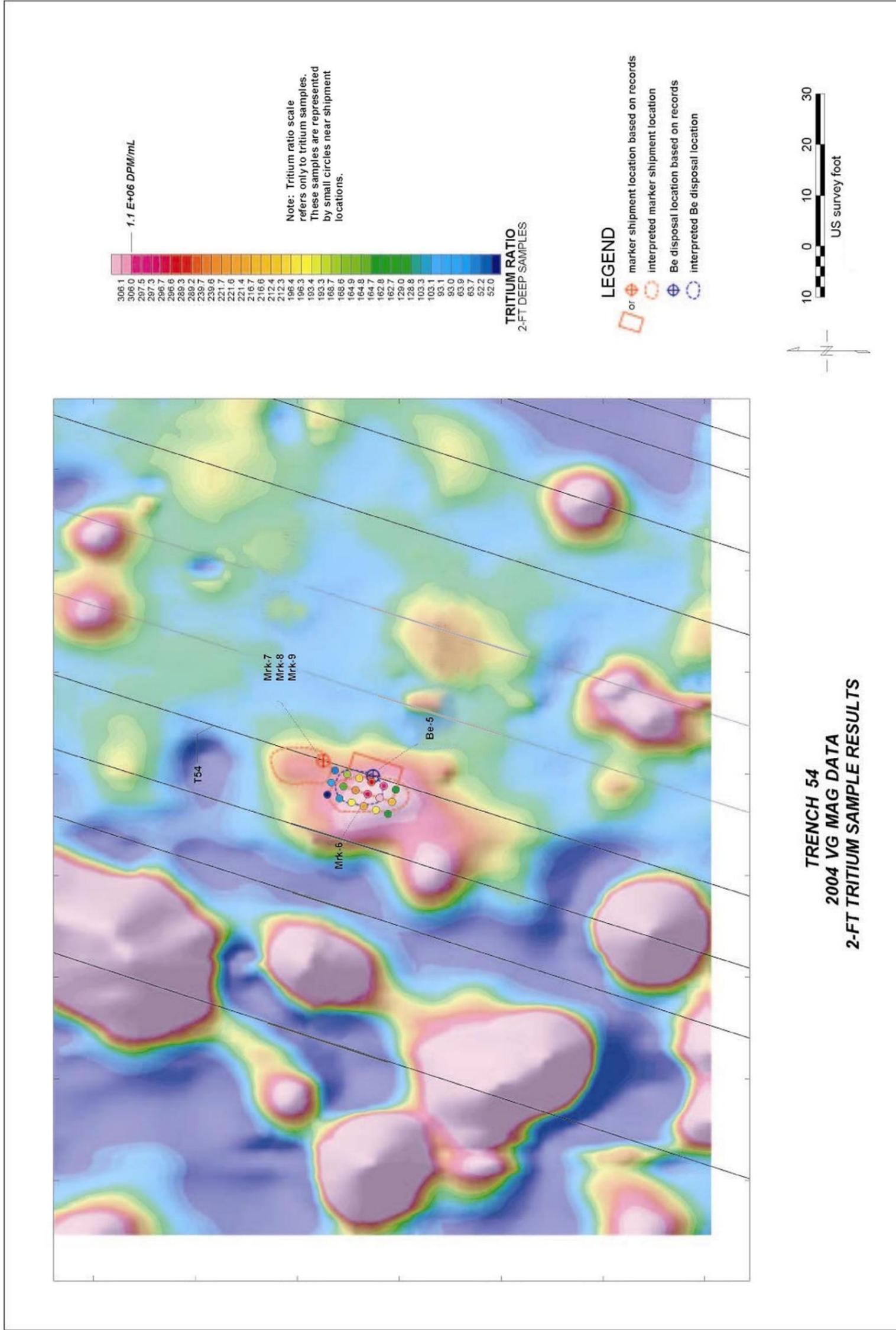


Figure C-4. Trench 54 vicinity map showing magnetic data and 2-ft-deep tritium sampling results for Be-5. Crosshair symbols and rectangular outlines show beryllium and marker shipments for Trench 54. Shipments and contents are labeled.

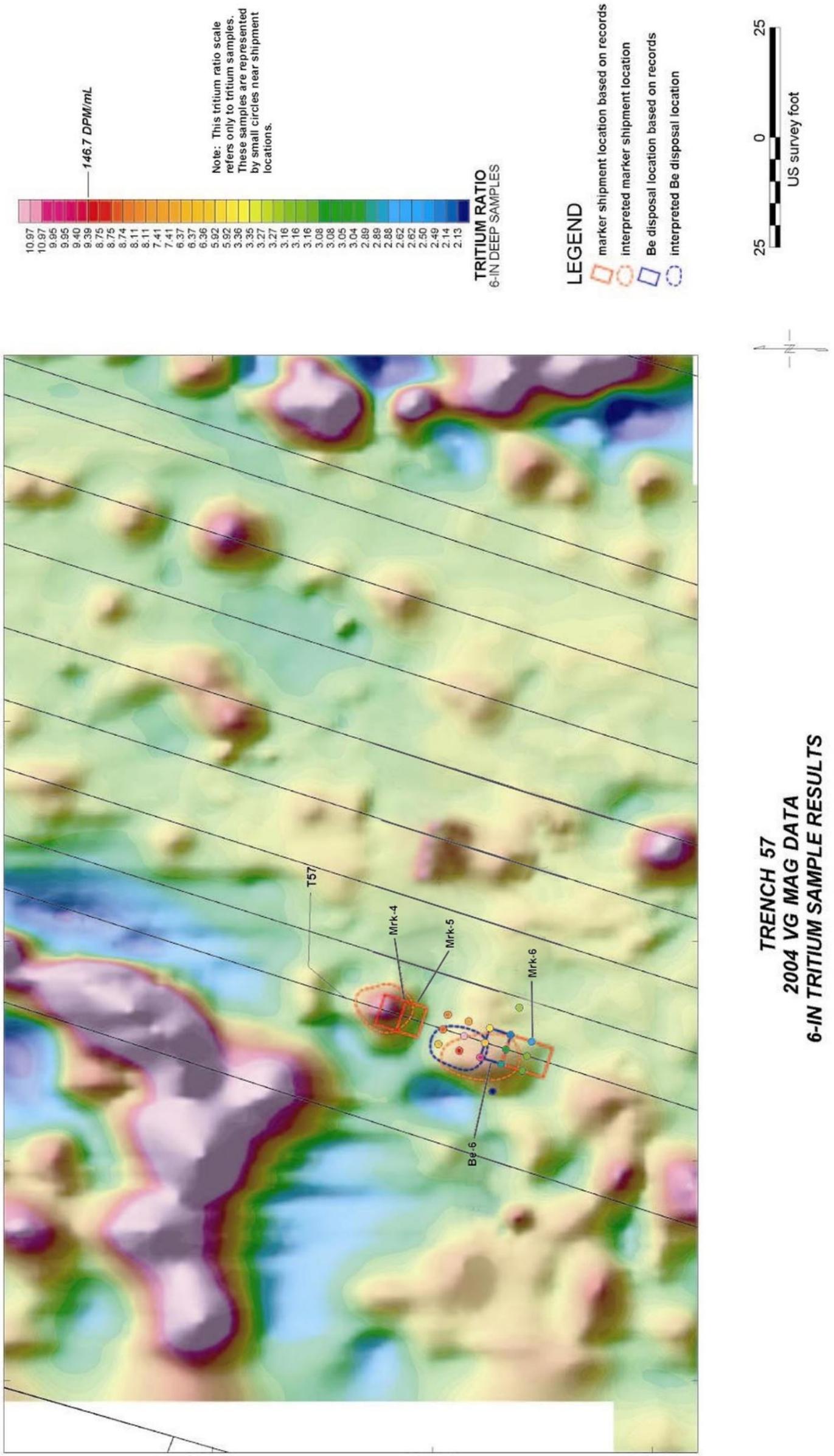


Figure C-5. Trench 57 vicinity map showing magnetic data and 6-in.-deep tritium sampling results for Be-6. Rectangular outlines show beryllium and marker shipments for Trench 57. Shipments and contents are labeled.

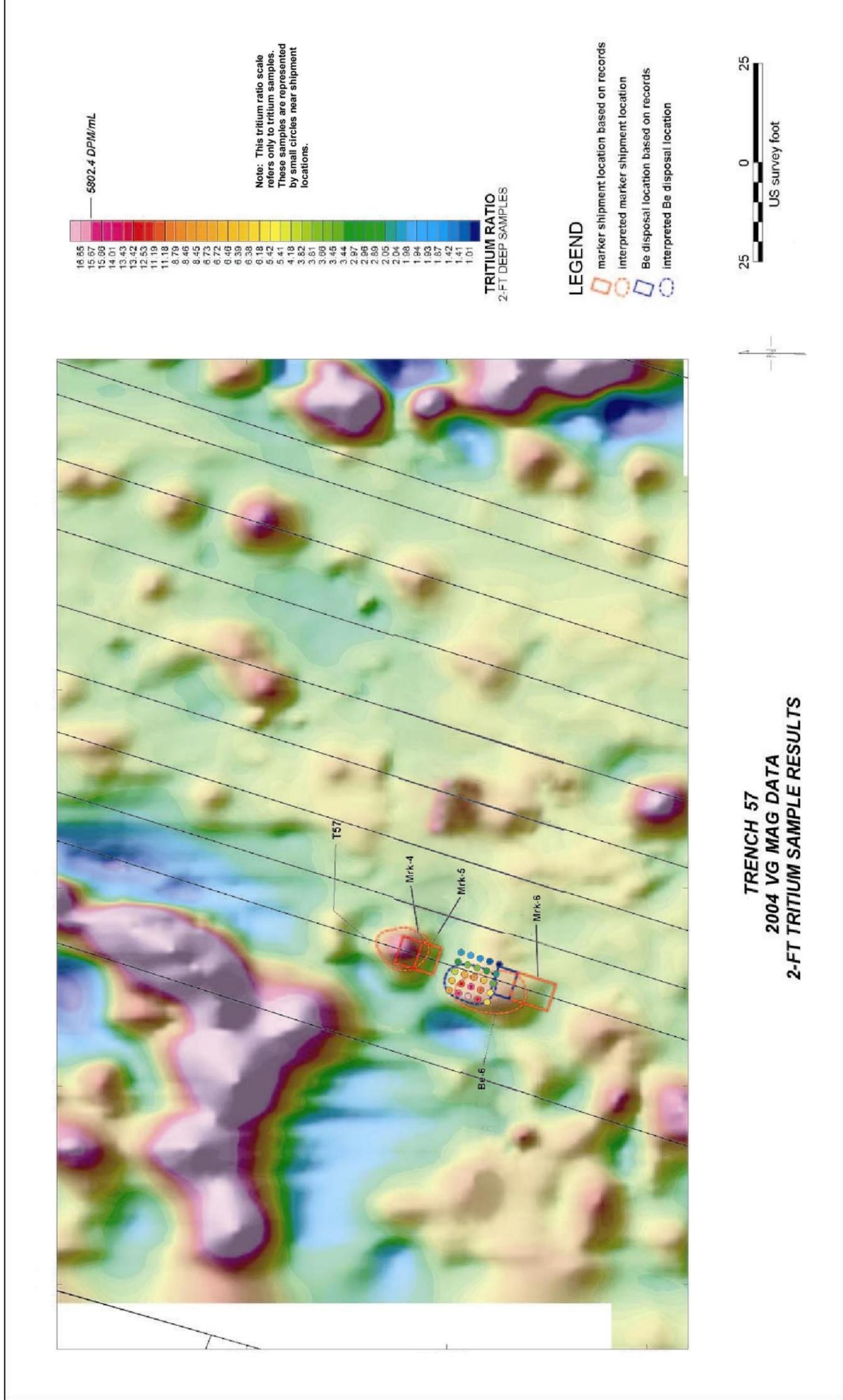


Figure C-6. Trench 57 vicinity map showing magnetic data and 2-ft-deep tritium sampling results for (Be-6). Rectangular outlines show beryllium and marker shipments for Trench 57. Shipments and contents are labeled.

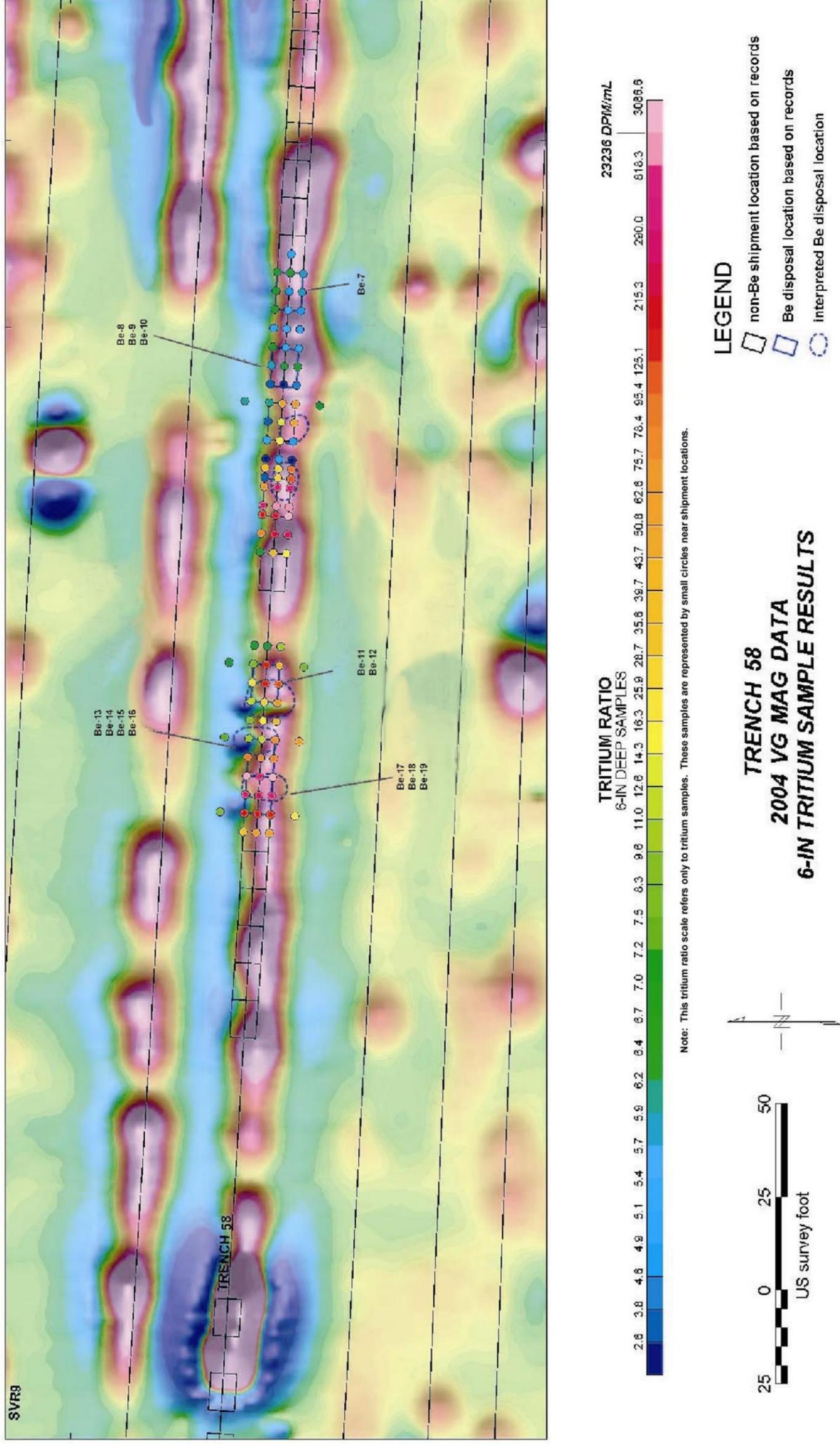


Figure C-7. Trench 58 vicinity map showing magnetic data and 6-in.-deep tritium sampling results for Be-7, Be-8, Be-9, Be-10, Be-11, Be-12, Be-13, Be-14, Be-15, Be-16, Be-17, Be-18, and Be-19.

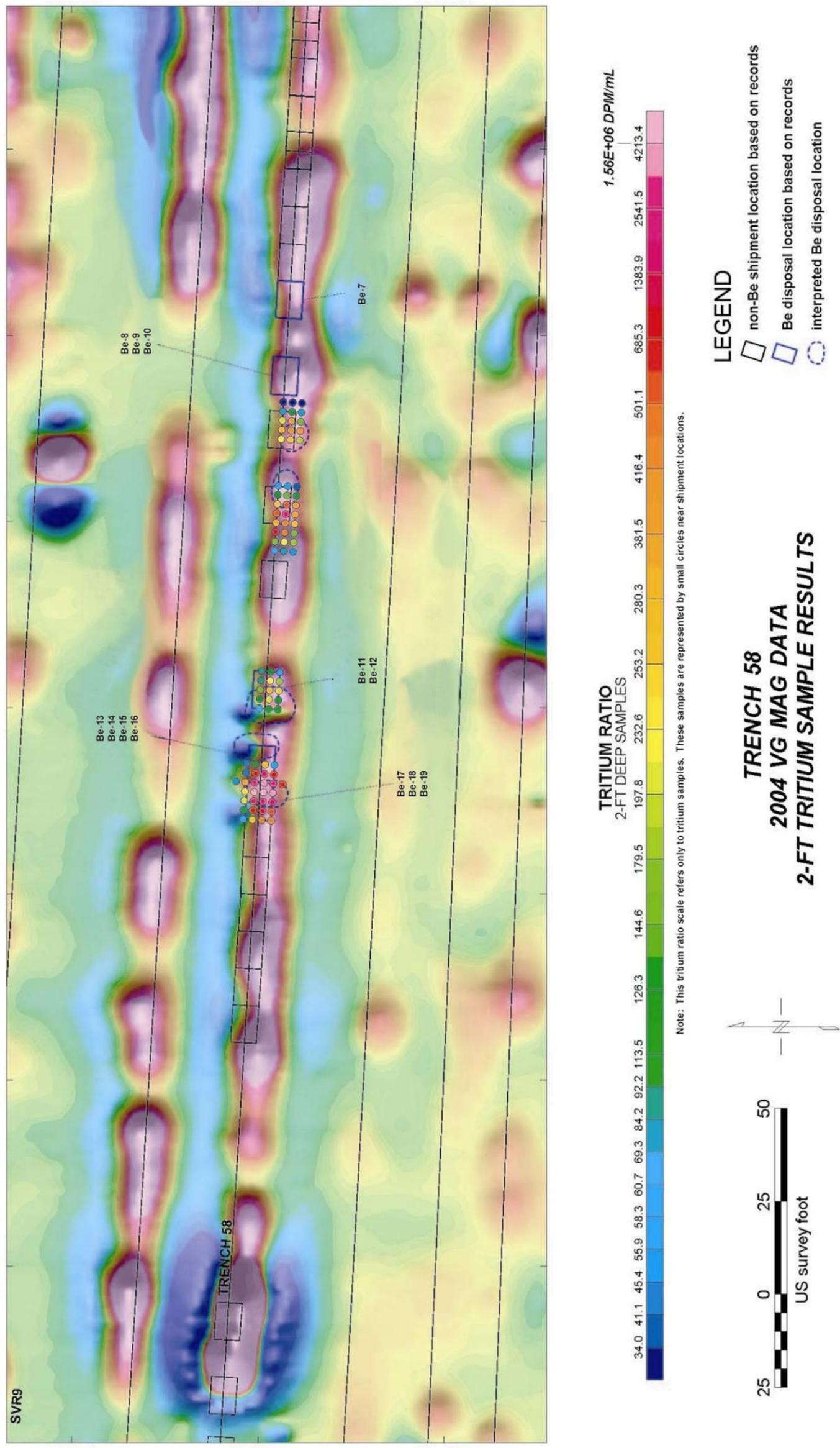


Figure C-8. Trench 58 vicinity map showing magnetic data and 2-ft-deep tritium sampling results for Be-7, Be-8, Be-9, Be-10, Be-11, Be-12, Be-13, Be-14, Be-15, Be-16, Be-17, Be-18, and Be-19.

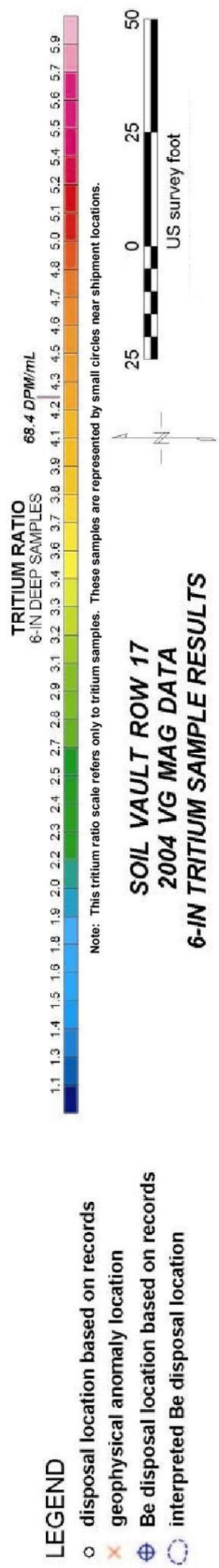
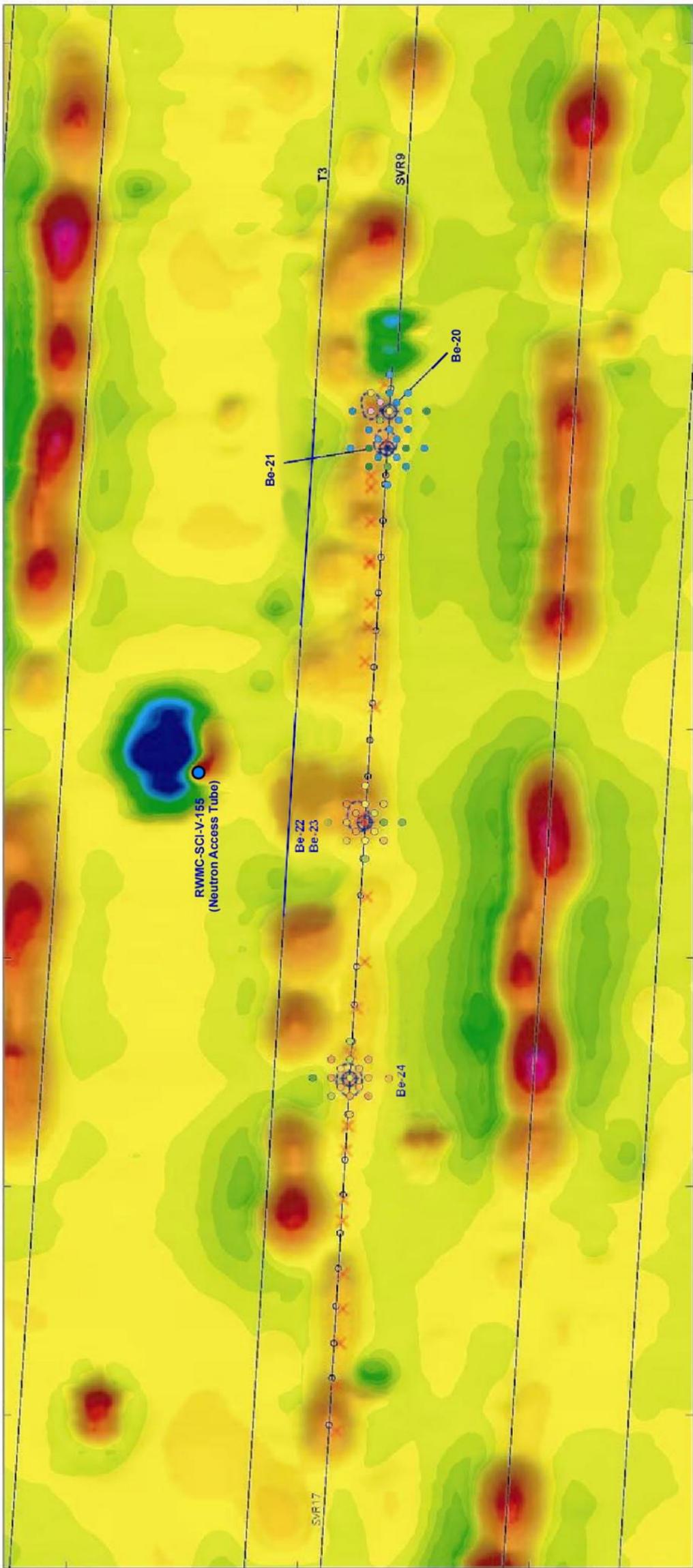


Figure C-9. Soil Vault Row 17 vicinity map showing magnetic data and 6-in.-deep tritium sampling results for Be-20, Be-21, Be-22, Be-23, and Be-24.

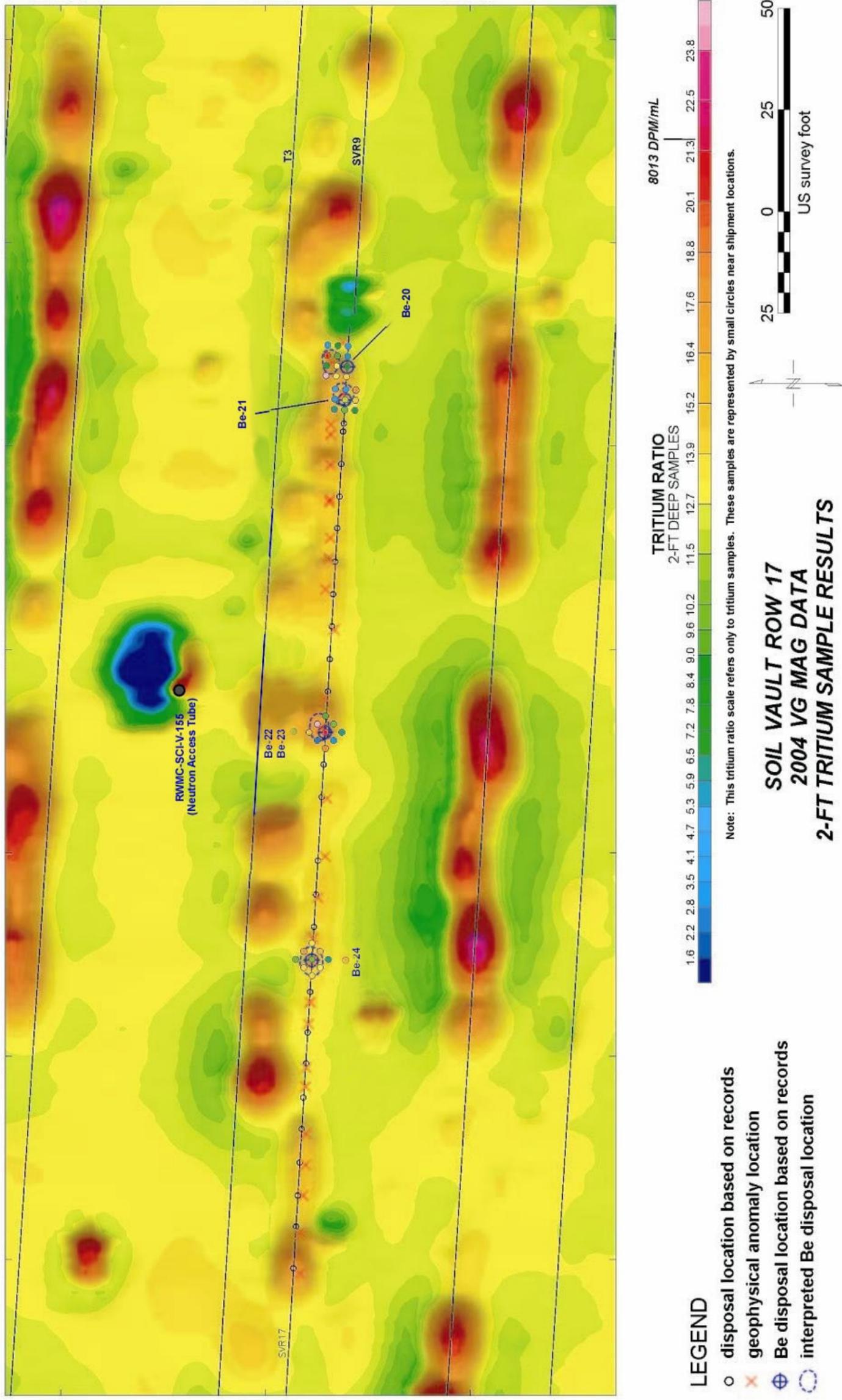
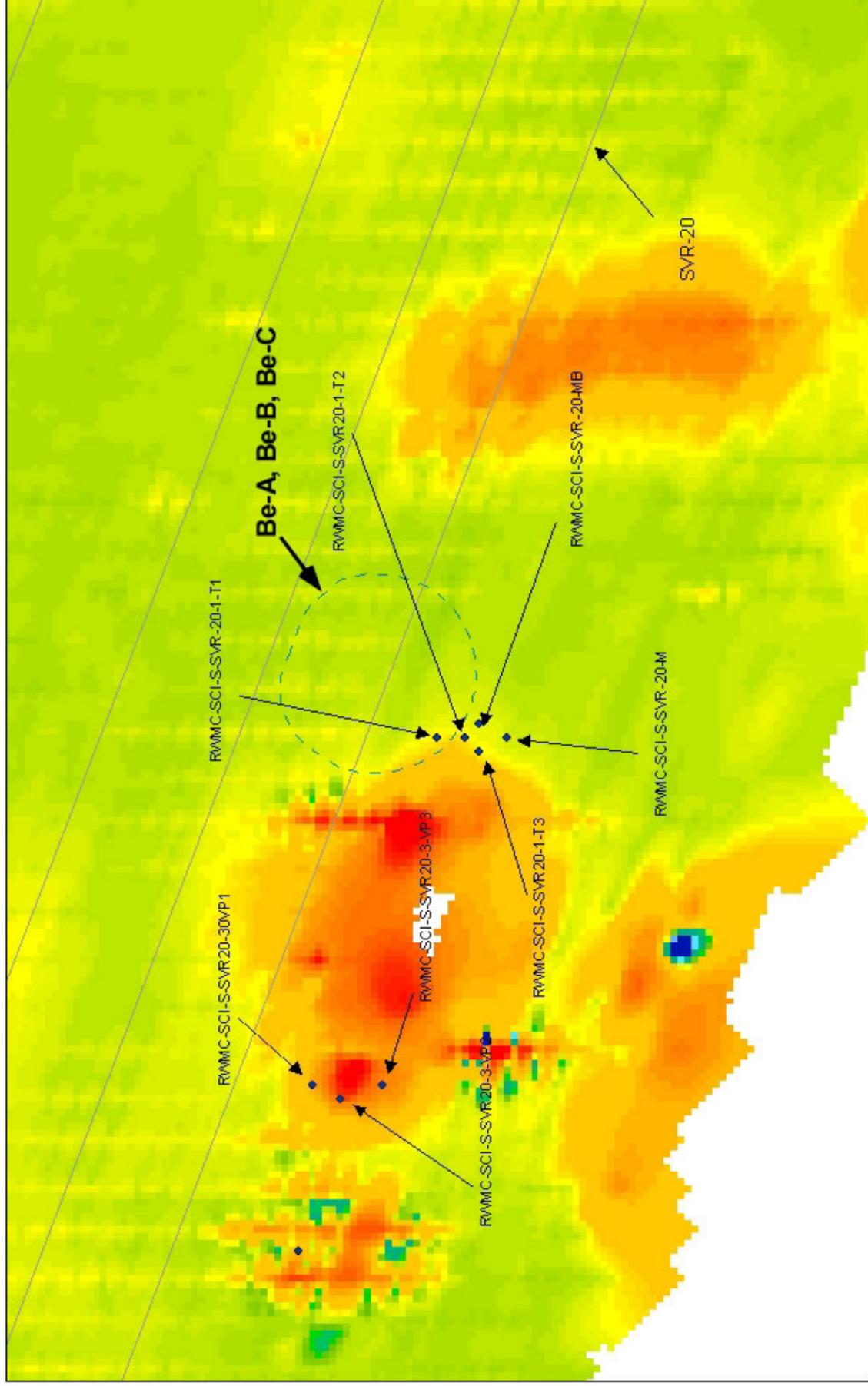


Figure C-10. Soil Vault Row 17 vicinity map showing magnetic data and 2-ft-deep tritium sampling results for Be-20, Be-21, Be-22, Be-23, and Be-24.



LEGEND

- Wells and Probes
- Trenches and Soil Vault Rows
- ▭ Interpreted Be Disposal Location

**SOIL VAULT ROW 20
2004 VG MAG DATA**

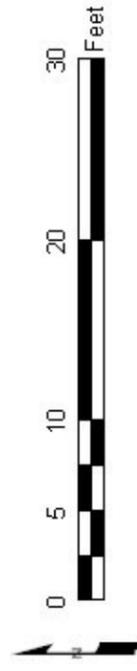


Figure C-11. Soil Vault Row 20 vicinity map showing location of beryllium shipment determined by records and extensive monitoring for Be-A, Be-B, and Be-C.